IN THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (currently amended) A method for supporting P2P (Peer to Peer) communication between two user equipments in TDD CDMA systems, performed by user equipment, comprising:

receiving downlink signals transferred via ~~the downlink~~ a control channel by a network system;

acquiring ~~the~~ timeslot allocation information according to the received downlink signals;

acquiring ~~the~~ spreading code allocation information of other active user equipments allocated in the specific downlink timeslot associated with ~~the~~ a direct link used by ~~said~~ the user equipments, according to the received downlink signals;

reducing the interference caused by downlink signals transferred ~~via downlink from network system~~ to ~~said~~ the other user equipments during P2P communication according to the acquired timeslot allocation information and spreading code allocation information, wherein ~~said~~ the interference reduction includes executing at least one of the methods Multi-User Detection (MUD) and Joint Detection (JD), and wherein at least one of ~~said~~ the methods utilizes ~~said~~ the spreading code information used by other user equipments in ~~said~~ the downlink timeslot to reduce interference;

establishing downlink synchronization with the network system and keeping downlink synchronization with the network system by tracking ~~the~~ a pilot channel;

in ~~said~~ the downlink timeslot, when ~~said~~ the user equipments transmit signals via ~~said~~ the direct link, the steps taken by ~~said~~ the user equipment includes:

- 2 -

(i) during establishing ~~said~~ a direct link, setting ~~the~~ a time of transmitting signals to the other user equipment in ~~said~~ the downlink timeslot, according to ~~the~~ a received time of ~~transmit transmitted~~ signals by a network system;

(ii) transmitting test signals to the other user equipment at ~~said~~ the set time in ~~said~~ the downlink timeslot;

(iii) receiving a feedback signal from the other user equipment, which is the time difference obtained by comparing the time at which the other user equipment receives the test signals and the received time at which the network system transmits signals in the other user equipment, after the other user equipment ~~receiving said~~ receives the test signals;

(iv) setting ~~the~~ a time advance for transmitting signals to the other user equipment according to the feedback signal~~s~~; and

(v) adjusting the time at which the user equipment transmits signals to the other user equipment according to time advance, in order that the downlink signals ~~of downlink~~ from the network system, which are received by the other user equipment, are synchronized with the signals of ~~said~~ the direct link from the user equipment.

2. (currently amended) The communication method according to claim 1, wherein ~~said~~ the spreading code allocation information at least includes the ~~said~~ spreading code information ~~being~~ used by other user equipments in ~~said~~ the downlink timeslot.

3. (canceled).

4. (canceled).

5. (canceled).

- 3 -

6. (currently amended) The communication method according to claim 1, further ~~includes~~including:

(vi) transmitting ~~the P2P~~ communication signals to ~~said~~ the other user equipment at ~~said~~ the adjusted time for transmitting;

(vii) receiving the synchronization shift information from ~~said~~ the other user equipment, which is the synchronization derivation estimated according to received ~~the P2P~~ communication signals in ~~said~~ the other user equipment after receiving ~~said P2P~~ communication signals; and

(viii) adjusting the timing advance for transmitting signals to the other user equipment according to the synchronization shift information.

7. (currently amended) The communication method according to claim 1, further ~~includes~~including:

adjusting the time at which the user equipment transmits signals to the other user equipment during ~~the~~ P2P communication ~~procedure~~, according to the synchronization shift information from the other user equipment, in order that the ~~P2P~~ communication signals transmitted by the user equipment and the downlink signals transmitted by the network system can reach the other user equipment at the same time.

8. (currently amended) The communication method according to claim 1 wherein when the user equipment receives signals via ~~said~~ the direct link in ~~said~~ the downlink timeslot, the step to be taken includes:

~~(a)~~ calculating ~~the~~ a difference between the time for receiving the test signals transmitted from the other user equipment and the time for receiving the signals transmitted from the network system, and ~~sends~~ sending the calculated time difference as a feedback ~~signals~~ signal to the other user equipment, when receiving test signals transmitted by ~~said~~ the other user equipment, ~~during the process of~~ while establishing ~~said~~ the direct link.

9. (currently amended) The communication method according to claim 8, wherein when the user equipment receives signals via ~~said~~ the direct link in ~~said~~ the downlink timeslot, the step to be taken further includes:

~~(b)~~ estimating ~~the~~ synchronization shift information of the other user equipment according to the received ~~P2P~~ communication signals when ~~the~~ a UE receives the ~~P2P~~ communication signals transmitted by the other user equipment, and sending the estimated synchronization shift information to the other ~~one~~ user equipment, ~~during the process of~~ while establishing the ~~said~~ direct link.

10. (currently amended) The communication method according to claim 8, further includes:

calculating ~~the~~ synchronization shift information of the other user equipment according to the received ~~P2P~~ communication signals from ~~said~~ the other user equipment, and sending the synchronization shift information to the other ~~one~~ user equipment, during the ~~process of~~ P2P communication.

11. (canceled).

12. (canceled).

- 5 -

13. (currently amended) A user equipment for supporting P2P (Peer to Peer) communication in TDD CDMA systems, comprising:

a signal transceiver, for receiving and transmitting radio signals;

a timeslot allocation information acquiring means for acquiring ~~the~~ a timeslot allocation information according to ~~the~~ information transferred via a downlink control channel;

a spreading code allocation information acquiring means for acquiring ~~the~~ spreading code allocation information of other active user equipments in a specific downlink timeslot which is used when ~~the~~ a UE is receiving signals via the direct link between the UE and the other ~~one~~ user equipment, according to the information transferred via the downlink control channel; and

a interference reducing means for reducing the interference caused by downlink signals transmitted from the network system to other user equipments during P2P communication ~~process~~ according to the acquired timeslot allocation information and spreading code allocation information, wherein ~~said~~ the interference reducing means executes at least one of the methods Multi-User Detection (MUD) and Joint Detection (JD) to reduce interference, and wherein one of ~~said~~ the methods reduce interference by using ~~said~~ the spreading code information used by other user equipments in ~~said~~ the downlink timeslot;

a synchronization means, for establishing downlink synchronization with the network system at ~~the~~ a cell search phase, and ~~keeping~~ maintaining downlink synchronization with the network system by tracking ~~the~~ a pilot channel;

a transmitting time setting means, for setting ~~the~~ a time for transmitting signals to the other user equipment in ~~said~~ the downlink timeslot , according to ~~the~~ a time for receiving the transmitting signals from the network system, ~~in the process of~~ when establishing the ~~said~~ direct link;

- 6 -

a test signals transmitting means~~,~~ for transmitting test signals to the other user equipment at the set time in ~~said~~ the downlink timeslot;

a feedback signal receiving means~~,~~ for receiving feedback signals from the other user equipment, which is ~~the~~ a time difference obtained by comparing the time for receiving test signals and the time for receiving the transmitting signals from the network system in the other user equipment, after the other user equipment ~~receiving~~ receives the test signals;

a time advance setting means for setting ~~the~~ a time advance for transmitting signals to the other user equipment; and

a transmitting time adjusting means ~~based on said feedback signals,~~ for adjusting, based on feedback signals, the transmitting time at which the user equipment transmits signals to the other user equipment according to the time advance, ~~in order~~ so that ~~the~~ downlink signals transferred via ~~downlink from the~~ network system, which are received by the other user equipment, are synchronized with the signals transferred via ~~said~~ the direct link from ~~said~~ the user equipment.

14. (currently amended) The user equipment according to claim 13, wherein ~~said~~ the spreading code allocation information at least includes the spreading code information ~~being~~ used by other user equipments in ~~said~~ the downlink timeslot.

15. (canceled).

16. (canceled).

17. (canceled).

18. (currently amended) The user equipment according to claim 13, further includes:

a synchronization shift information receiving means, for receiving ~~the~~ a synchronization shift information from ~~said~~ the other user equipment, which is ~~the~~ a synchronization derivation estimated by the other user equipment after receiving ~~P2P~~ communication signals, according to ~~the~~ received ~~P2P~~ communication signals; and

a transmitting time adjusting means ~~based on synchronization shift information,~~ for adjusting, based on synchronization shift information, ~~the~~ a timing advance for transmitting signals to ~~said~~ the other user equipment according to ~~said~~ synchronization shift information.

19. (currently amended) The user equipment according to claim 13, further includes:

a feedback signal~~s~~ generating means, for calculating ~~the~~ a difference between the time for receiving test signals and ~~the~~ a time for receiving signals transmitted from the network system, and sending the calculated difference as a feedback signal~~s~~ to the other user equipment when receiving the test signals transmitted by the other user equipment, ~~during the process of~~ while establishing ~~said~~ the direct link.

20. (currently amended) The user equipment according to claim 19, further includes:

a synchronization shift information generating means, for estimating ~~the~~ synchronization shift information of the other user equipment according to ~~the P2P~~ communication signals when ~~the~~ a UE receives ~~P2P~~ communication signals transmitted by ~~said~~ the other user equipment, and sending the estimated synchronization shift information to the other ~~one~~ user equipment.

21. (canceled).

22. (canceled).